

Code: 20EE6502

III B.Tech - I Semester - Regular Examinations - NOVEMBER 2024

**REACTIVE POWER CONTROL IN ELECTRIC
SYSTEMS**

(HONORS in ELECTRICAL & ELECTRONICS ENGINEERING)

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Discuss about the objectives of load compensation.	L2	CO1	7 M
	b)	Explain about the effect of compensator on voltage regulation and power factor correction. Also, write the significance of power factor correction.	L3	CO2	7 M
OR					
2	a)	Explain reactive power characteristics.	L4	CO3	7 M
	b)	Discuss about specifications of load compensation.	L3	CO2	7 M
UNIT-II					
3	a)	Illustrate the main objectives of shunt compensation.	L3	CO2	7 M
	b)	Discuss about the all types of compensation.	L4	CO3	7 M

OR					
4	a)	What are the main objectives of series compensation?	L2	CO1	7 M
	b)	Discuss in detail the improvement of transient stability with shunt compensation.	L3	CO2	7 M
UNIT-III					
5	a)	Discuss about the benefits of transmission planning and operation.	L3	CO4	7 M
	b)	Write a short note on electromagnetic interference.	L4	CO3	7 M
OR					
6	a)	Write a short note on radio frequency interference.	L2	CO1	7 M
	b)	Discuss the role of capacitor in quality control of Electric power system.	L3	CO2	7 M
UNIT-IV					
7	a)	Explain various load patterns observed in demand side management.	L3	CO4	7 M
	b)	Discuss about the Reactive power planning.	L3	CO2	7 M
OR					
8	a)	Discuss about the basic methods of load shaping used in Demand side management.	L4	CO3	7 M
	b)	Explain about the objectives of the Demand side management.	L2	CO1	7 M

UNIT-V

9	a)	Discuss about the need of using capacitors on user side for reactive power management.	L3	CO2	7 M
	b)	Explain about the selection procedure of capacitors.	L3	CO4	7 M

OR

10	a)	Write a short note on types of available capacitors along with their characteristics and limitations.	L3	CO2	7 M
	b)	Explain about the KVAR requirements for domestic appliances.	L4	CO3	7 M